Amendments to the Claims

Claim 1 **(Currently Amended)** A substrate polishing apparatus comprising:

a rotatable polishing table against which a substrate is pressed, said rotatable polishing table having a fluid chamber at a light-emitting and light receiving position thereof;

a light-emitting and light-receiving device to emit measurement light from said rotatable polishing table to the substrate along a first direction and to receive reflected light from the substrate for measuring a film formed on the substrate;

a fluid supply passage for supplying a fluid for measurement to said fluid chamber of said rotatable polishing table along a second direction parallel to the first direction to form a liquid column, which is brought into contact with the substrate above said fluid supply passage, the measurement light and the reflected light passing through the liquid column ~~fluid for measurement~~;

a rotational angle sensor for detecting an angular position of said rotatable polishing table in a rotational direction of said rotatable polishing table; and

a fluid supply control device for controlling supply of the fluid for measurement to said fluid chamber according to a positional relationship between said fluid chamber and the substrate which is detected by said rotational angle sensor.

Claim 2 **(Canceled)**

Claim 3 **(Previously Presented)** The substrate polishing apparatus as recited in claim 1, wherein said fluid supply control device ejects the fluid for measurement to said fluid chamber during a blocking period during which said fluid chamber is blocked by the substrate.

Claim 4 **(Previously Presented)** The substrate polishing apparatus as recited in claim 3, wherein during an unblocking period during which said fluid chamber is not blocked by the substrate, said fluid supply control device supplies the fluid for measurement to said fluid chamber at a flow rate lower than a flow rate during ejection.

Claim 5 **(Previously Presented)** The substrate polishing apparatus as recited in claim 1, further comprising a compulsory discharge control device for controlling compulsory discharge of a fluid in said fluid chamber according to the positional relationship between said fluid chamber and the substrate which is detected by said rotational angle sensor.

Claim 6 **(Previously Presented)** The substrate polishing apparatus as recited in claim 5, wherein said compulsory discharge control device compulsorily discharges the fluid in said fluid chamber during a blocking period during which said fluid chamber is blocked by the substrate.

Claim 7 **(Previously Presented)** The substrate polishing apparatus as recited in claim 6, wherein said compulsory discharge control device continues compulsory discharge of the fluid in said fluid chamber during a predetermined post-blocking period after the blocking period is completed.

Claim 8 **(Previously Presented)** The substrate polishing apparatus as recited in claim 5, wherein said compulsory discharge control device restricts compulsory discharge of the fluid in said fluid chamber during a predetermined pre-blocking period before said fluid chamber is blocked by the substrate.

Claim 9 **(Previously Presented)** A substrate polishing apparatus comprising:

a rotatable polishing table against which a substrate is pressed, said rotatable polishing table having a fluid chamber provided at a light emitting and light-receiving position thereof;

a light-emitting and light-receiving device to emit measurement light from said rotatable polishing table to the substrate and to receive reflected light from the substrate;

a first passage for a high flow rate, said first passage introducing a fluid, through which the measurement light and the reflected light pass, to said fluid chamber of said rotatable polishing table;

a second passage for a low flow rate, said second passage being restricted as compared to said first passage for the high flow rate which introduces the fluid to said fluid chamber;

a rotational angle sensor for detecting an angular position of said rotatable polishing table in a rotation direction of said rotatable polishing table; and

a switching unit for switching into which of said first and second passages the fluid is introduced based on a detection signal of said rotational angle sensor.

Claims 10-20 **(Canceled)**

Claim 21 **(Currently Amended)** A ~~The~~ substrate polishing apparatus comprising: ~~as recited in claim 1~~

a rotatable polishing table against which a substrate is pressed, said rotatable polishing table having a fluid chamber at a light-emitting and light receiving position thereof;

a light-emitting and light-receiving device to emit measurement light from said rotatable polishing table to the substrate and to receive reflected light from the substrate for measuring a film formed on the substrate;

a fluid supply passage for supplying a fluid for measurement to said fluid chamber of said rotatable polishing table, the measurement light and the reflected light passing through the fluid for measurement;

a rotational angle sensor for detecting an angular position of said rotatable polishing table in a rotational direction of said rotatable polishing table; and

a fluid supply control device for controlling supply of the fluid for measurement to said fluid chamber according to a positional relationship between said fluid chamber and the substrate which is detected by said rotational angle sensor,

wherein said fluid supply passage includes a passage for a high flow rate and a passage for a low flow rate which are connected to said fluid chamber.

Claim 22 **(Canceled)**

Claim 23 **(Previously Presented)** The substrate polishing apparatus as recited in claim 9, wherein said first passage and said second passage are connected to said fluid chamber.

Claim 24 **(Previously Presented)** The substrate polishing apparatus as recited in claim 9, wherein the measurement light and the reflected light pass through the fluid for measurement along a direction parallel to a direction in which the fluid flows.